

## ABSTRACT:

The invention relates to the processing of video signals prior to encoding or other compression operations, and, more particularly, to a method for encoding video signals corresponding to a sequence of frames each of which consists of two fields F1 and F2. The proposed method comprises the steps of receiving successive frames of an input video signal and delaying them with at least a "two fields" duration delay, and detecting any dominance change and adjusting said delay. When a change from an F1 dominance to an F2 dominance is detected, the first field of the first F2 dominant frame is suppressed, and said delay is decreased by a quantity equal to "one field" duration ; when a change from an F2 dominance to an F1 dominance is detected, the last field of the last F2 dominant frame is repeated, and the delay is further increased by a quantity equal to "one field" duration.

The invention also relates to a method for encoding a sequence of frames including either video-type images or film-type images, and to an encoding system that carries out said method by incorporating the first solution hereinabove presented. If a sequence of film-type is detected, the inverse 3:2 pull-down technique is applied on the input frames, while in the opposite case, said technique is de-activated and replaced by said first solution : preprocessing according to the type of dominance change.

Fig. 6

**(19) World Intellectual Property Organization  
International Bureau**



**(43) International Publication Date**  
**8 February 2001 (08.02.2001)**

**PCT**

**(10) International Publication Number**  
**WO 01/10133 A1**

**(51) International Patent Classification<sup>7</sup>:** H04N 7/26

[FR/FR]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). DEL CORSO, Sandra [FR/FR]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). LE MAGUET, Isabelle [FR/FR]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

**(21) International Application Number:** PCT/EP00/07425

**(22) International Filing Date:** 31 July 2000 (31.07.2000)

(25) Filing Language: English

(74) Agent: **LANDOUSY, Christian**; Internationaal Octrooibureau B.V., Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(26) Publication Language: English

**(81) Designated States (national):** CN, IN, JP, KR, US.

**(30) Priority Data:**

99401969.3 /  3 August 1999 (03.08.1999) EP  
99403228.2 / 21 December 1999 (21.12.1999) EP

**(84) Designated States (regional):** European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

(71) **Applicant** (*for all designated States except US*): KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

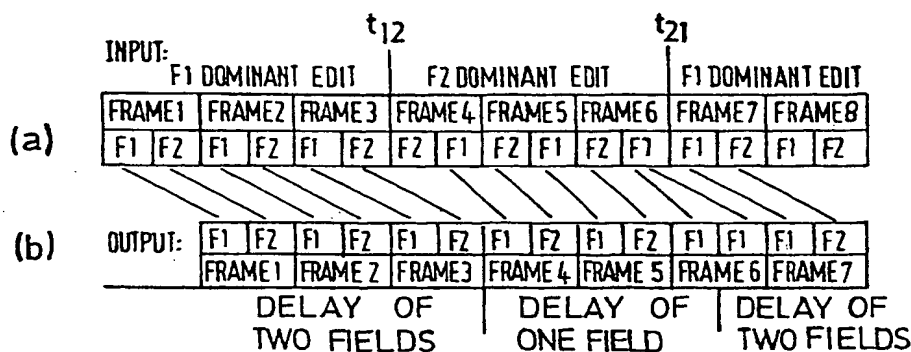
**Published:**  
— *With international search report.*

(72) Inventors; and

(75) Inventors/Applicants (for US only): GAUTIER, Pierre

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: METHOD AND DEVICE FOR ENCODING SEQUENCES OF FRAMES INCLUDING EITHER VIDEO-TYPE OR FILM-TYPE IMAGES



**(57) Abstract:** The invention relates to the processing of video signals prior to encoding or other compression operations, and, more particularly, to a method for encoding video signals corresponding to a sequence of frames each of which consists of two fields F1 and F2. The proposed method comprises the steps of receiving successive frames of an input video signal and delaying them with at least a "two fields" duration delay, and detecting any dominance change and adjusting said delay. When a change from an F1 dominance to an F2 dominance is detected, the first field of the first F2 dominant frame is suppressed, and said delay is decreased by a quantity equal to "one field" duration; when a change from an F2 dominance to an F1 dominance is detected, the last field of the last F2 dominant frame is repeated, and the delay is further increased by a quantity equal to "one field" duration. The invention also relates to a method for encoding a sequence of frames including either video-type images or film-type images, and to an encoding system that carries out said method by incorporating the first solution hereinabove presented. If a sequence of film-type is detected, the inverse 3:2 pull-down technique is applied on the input frames, while in the opposite case, said technique is de-activated and replaced by said first solution: preprocessing according to the type of dominance change.

**WO 01/10133 A1**